# Chapter 1.5

# A Conceptual Framework for Developing and Evaluating ERP Implementation Strategies in Multinational Organizations

**Kai Kelzenberg**
*RWTH Aachen University, Germany*

**Thomas Wagner**
*RWTH Aachen University, Germany*

**Kai Reimers**
*RWTH Aachen University, Germany*

## ABSTRACT

The chapter develops generic strategies for the specification and implementation of an enterprise resource planning (ERP) system in a multinational company. After the presentation of a framework for categorizing companies by their global business orientation, ERP strategies corresponding to each category are derived. Subsequently, various implementation strategies are developed for each type of ERP strategy; they provide decision makers with a high degree of freedom in specifying an implementation strategy in accordance with a company's strategic goals. The results are summarized in a phase model; the overall approach is illustrated by two polar cases.

## INTRODUCTION

Market demands are becoming more and more dynamic, forcing organizations to be flexible in order to satisfy the needs of their customers (Mabert, Soni, & Venkataramanan, 2001). At the same time, organizations face an ever increasing competition through globalization. As a result of both phenomena, business organizations tend to act in networks of tightly or loosely coupled productive units. Bartlett and Ghoshal (1998) identify four different business orientations which can be used to describe the structures of multinational companies (MNCs). Starting from these four business orientations, this chapter presents a conceptual framework for deriving enterprise resource planning (ERP) implementation strategies

in multinational organizations. This is motivated by the findings of prior research that shows the importance of aligning the IT strategy with a firm's business strategy (Ward, Griffiths, & Whithmore, 1990; Earl, 1993).

However, organizational contingencies are seldom considered in the literature on ERP implementations which focuses on critical success factors (CSFs) (Holland & Light, 1999; Akkermanns & van Helden, 2003) or critical issues and risk factors in general (Bingi, Sharma, & Godla, 1999; Sumner, 2000; Scott, 1999; Hong & Kim, 2002; Gosh & Gosh, 2003). The framework of Bartlett and Ghoshal has previously been applied in the IS field. Reimers (1997) shows how IT can be managed in the transnational organization, and Madapusi and D´Souza (2005) have used the framework to develop recommendations regarding the way ERP systems should be configured in multinational companies. While these authors also discuss the issue of appropriate implementation strategies, this discussion focuses on the issue of a 'big bang' vs. a phased implementation approach, which we deem too narrow. Rather, we propose that the configuration of an ERP system should follow an appropriate ERP implementation strategy which comprises many more issues than that of a big bang vs. a phased implementation approach. In this chapter, we offer a framework which helps to conceptually organize the issues that should be considered in deriving an ERP implementation strategy for multinational companies and which also helps to fine-tune the implementation strategy as the implementation process unfolds.

The remainder of this chapter is organized as follows: First we will give a short review of different views on ERP before we derive ERP strategies from an organization's business orientation. Subsequently we will discuss different ERP implementation strategies. Afterwards, our framework is presented and illustrated by two examples. The chapter ends with a discussion.

## BACKGROUND

The implementation of an enterprise resource planning system in a company can have different degrees of complexity which will be conditioned by the following items (this list is limited by the scope of the chapter; several more perspectives could be added in future work):

1. ERP definition
2. ERP strategy
3. Implementation strategy

Referring to O'Leary (2000), ERP systems "provide firms with transaction processing models that are integrated with other activities of the firm" (p. 7). Moreover, they can reduce information asymmetries and help to create one view on all relevant data which can be shared across the whole organization. This concept is based on a single database that contains all data of several functional and/or local areas. Bancroft, Sprengel, and Seip (1996) offer a similar definition of ERP systems focusing on SAP/R3. For them, an ERP system consists of "one database for the entire corporation without any data redundancy and with a clear definition of each [data] field" (p. 17). Firestone (2002) adds another perspective on ERP as he mentions that customers want ERP for decision-making support, although there are other (software) systems that are more specialized in this area. Markus and Tanis (2000) add the opinion of some ERP vendors who state that their software "met all the information-processing needs of the companies that adopted them" (p. 174). This includes an automatic data transfer facility between several functions within the system as well as a shared database for all applications.

These conditions could be satisfied fairly easily if one was dealing with a single-site company, but the more interesting question is what happens if a company is composed of different sites with different ranges of functionality, for example, a

16 more pages are available in the full version of this document, which may
be purchased using the "Add to Cart" button on the publisher's webpage:
[www.igi-global.com/chapter/conceptual-framework-developing-evaluating-erp/48534](www.igi-global.com/chapter/conceptual-framework-developing-evaluating-erp/48534)

## Related Content

Future State of Outsourcing Supply Chain Information Systems: An Analysis of Survey Results
Seong-Jong Joo, Ik-Whan G. Kwonand Chang Won Lee (2010). *International Journal of Enterprise Information Systems (pp. 1-16).*
[www.irma-international.org/article/future-state-outsourcing-supply-chain/46064](www.irma-international.org/article/future-state-outsourcing-supply-chain/46064)

People-Oriented Enterprise Information Systems
Giorgio Bruno (2009). *International Journal of Enterprise Information Systems (pp. 17-33).*
[www.irma-international.org/article/people-oriented-enterprise-information-systems/37505](www.irma-international.org/article/people-oriented-enterprise-information-systems/37505)

User Acceptance of Enterprise Resource Planning (ERP) Systems in Higher Education
Institutions: A Conceptual Model
Dalal Bamufleh, Maram Abdulrahman Almalki, Randa Almohammadiand Esraa Alharbi (2021). *International Journal of Enterprise Information Systems (pp. 138-157).*
[www.irma-international.org/article/user-acceptance-of-enterprise-resource-planning-erp-systems-in-higher-education-institutions/285026](www.irma-international.org/article/user-acceptance-of-enterprise-resource-planning-erp-systems-in-higher-education-institutions/285026)

IT Infrastructures and Standards for VE Integration Development
Nicolaos Protogeros (2005). *Virtual Enterprise Integration: Technological and Organizational Perspectives (pp. 297-315).*
[www.irma-international.org/chapter/infrastructures-standards-integration-development/30863](www.irma-international.org/chapter/infrastructures-standards-integration-development/30863)

Improving Internal Supply Chain Collaboration by Increasing Information-Processing Capacity:
The Role of Enterprise Information Systems
Ana L. Rosado Feger (2011). *International Journal of Enterprise Information Systems (pp. 1-12).*
[www.irma-international.org/article/improving-internal-supply-chain-collaboration/60401](www.irma-international.org/article/improving-internal-supply-chain-collaboration/60401)